

**CLAIMS**

What is claimed is:

1. A method reducing signal distortion in a multiple line transmission system, the method comprising:
  - using one or more split-pair receivers in a multiline communications system to identify crosstalk on a pair of transceivers coupled to the split pair receivers, wherein each split pair receiver receives a signal including the crosstalk from each transceiver and provides a corresponding signal vector to a post processing unit; and
  - performing MIMO post-processing on signal vectors received at a receiver from each transceiver and each split-pair receiver while minimizing crosstalk on pairs of lines in the multiline communications system with a frequency equalizer.